

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

RALF DORSCHIED ET AL

DE 000234

Serial No.

Group Art Unit

Filed: CONCURRENTLY

Ex.

Title: CIRCUIT ARRANGEMENT

Commissioner for Patents

Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee and examination, please amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

3. (amended) A detector as claimed in claim 1, characterized in that the adhesive (A) is a fast curing epoxy resin, cyanoacrylate or acrylate adhesive.

11. (amended) A method of forming a detector for the detection of electromagnetic radiation which detector includes at least one scintillator (6), at least one CMOS chip (3) and one ceramic basic

element (4), wherein a respective intermediate layer (2) that is defined in respect of its gap width is arranged each time between the scintillator (6) and the CMOS chip (3) and between the CMOS chip (3) and the ceramic basic element (4), and wherein said intermediate layer (2) contains at least two adhesives (A, B) of different consistency and spacers (5), and where first an intermediate layer (2) is formed between a CMOS chip (3) and a ceramic basic element (4), where spacers (5) and quantities of an adhesive (A1) are applied to a surface of the ceramic basic element (4) during the first step, where the applied quantities of an adhesive (A1) project from the spacers (5), where subsequently the CMOS chip (3) is placed on said quantities and is bonded and fixed while resting on the spacers (5) and quantities of the adhesive (A1), and where during a second step the gap remaining between the CMOS chip (3) and the ceramic basic element (4) is completely filled with an adhesive (B) which is applied to a side of the CMOS chip (3) in the horizontal position and enters the gap under the influence of capillary forces and is subsequently allowed to cure and subsequently a second intermediate layer (2) is formed between a scintillator (6) and a CMOS chip (3), where at least quantities of the adhesive (A2) are applied, during the first step, to the bumps that are provided in optically inactive regions of the CMOS chip surface, after which the scintillator (6) is arranged on the

bumps and is bonded and fixed while resting on the bumps and on the quantities of an adhesive (A2), and where in a second step the gap remaining between the scintillator (6) and the CMOS chip (3) is completely filled with an adhesive (B) which is applied to one side of the scintillator (6) in the horizontal position and enters the gap under the influence of capillary forces and is subsequently allowed to cure.

12. (amended) An X-ray examination apparatus that includes at least one detector as claimed in claim 1.

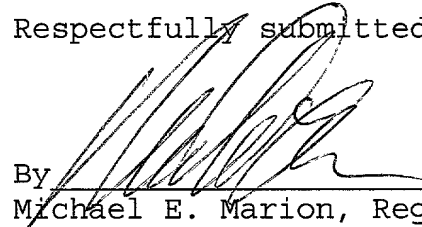
REMARKS

The foregoing amendments to the claims were made solely to avoid filing the claims in the multiple dependent form so as to avoid the additional filing fee.

The claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore

reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

Respectfully submitted,



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APPENDIX

3. (amended) A detector as claimed in ~~the claims 1 and 2~~claim 1, characterized in that the adhesive (A) is a fast curing epoxy resin, cyanoacrylate or acrylate adhesive.

11. (amended) A method of forming a detector for the detection of electromagnetic radiation which detector includes at least one scintillator (6), at least one CMOS chip (3) and one ceramic basic element (4), wherein a respective intermediate layer (2) that is defined in respect of its gap width is arranged each time between the scintillator (6) and the CMOS chip (3) and between the CMOS chip (3) and the ceramic basic element (4), and wherein said intermediate layer (2) contains at least two adhesives (A, B) of different consistency and spacers (5), and ~~as claimed in claim 1~~, where first an intermediate layer (2) is formed between a CMOS chip (3) and a ceramic basic element (4), where spacers (5) and quantities of an adhesive (A1) are applied to a surface of the ceramic basic element (4) during the first step, where the applied quantities of an adhesive (A1) project from the spacers (5), where subsequently the CMOS chip (3) is placed on said quantities and is bonded and fixed while resting on the spacers (5) and quantities of the adhesive (A1), and where during a second step the gap remaining

between the CMOS chip (3) and the ceramic basic element (4) is completely filled with an adhesive (B) which is applied to a side of the CMOS chip (3) in the horizontal position and enters the gap under the influence of capillary forces and is subsequently allowed to cure in conformity with claim 9 and subsequently an a second intermediate layer (2) is formed between a scintillator (6) and a CMOS chip (3), where at least quantities of the adhesive (A2) are applied, during the first step, to the bumps that are provided in optically inactive regions of the CMOS chip surface, after which the scintillator (6) is arranged on the bumps and is bonded and fixed while resting on the bumps and on the quantities of an adhesive (A2), and where in a second step the gap remaining between the scintillator (6) and the CMOS chip (3) is completely filled with an adhesive (B) which is applied to one side of the scintillator (6) in the horizontal position and enters the gap under the influence of capillary forces and is subsequently allowed to cure in conformity with claim 10.

12. (amended) An X-ray examination apparatus that includes at least one detector as claimed in ~~one of the claims 1 to 8~~claim 1.